

## **EHRlichiosis**

Ehrlichiosis is an acute, febrile bacterial illness caused by microorganisms called rickettsiae that are transmitted to humans by a tick bite. The symptoms are often non-specific with the most common complaints being fever, headache, myalgia, anorexia, nausea, and vomiting. The illness ranges from mild to life threatening.

Two types are recognized in the United States:

- HME—Human Monocytic Ehrlichiosis—*Ehrlichia chaffeensis*
- HGE—Human Granulocytic Ehrlichiosis—probably *E. phagocytophilia* and *E. equi*

### **Laboratory Criteria for Confirmation:**

- Fourfold or greater change in antibody titer to *Ehrlichia* spp. antigen by immunofluorescence antibody (IFA) test in acute and convalescent specimens ideally taken four weeks or more apart. HME diagnosis requires the use of *E. chaffeensis* antigen and HGE currently requires *E. equi* or HGE-antigen; **OR**
- Positive polymerase chain reaction (PCR) assay. Distinct primers are used for the diagnosis of HGE and HME; **OR**
- Intracytoplasmic morulae (inclusions) identified in blood, bone marrow, or CSF leukocytes **and** an IFA antibody titer  $\geq 1:64$ .

### **Case Classification**

*Confirmed:* A clinically compatible case that is laboratory confirmed.

*Probable:* A clinically compatible case with either a single IFA serologic titer  $\geq 64$  or intracytoplasmic morulae identified in blood, bone marrow, or CSF leukocytes.

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### **Epidemiology**

#### **2002**

Two cases were reported from 2 different districts (Green River and North Central Districts); one female, one male, both in the 30-39 age group. Both were HME cases. A third case was considered as a probable, also from Green River District.

The Lone Star tick (*Amblyomma americanum*) and the American Dog tick (*Dermacentor variabilis*), both found in Kentucky, are the vectors for HME, the type of Ehrlichiosis usually diagnosed in the southeastern states.

Incomplete testing is the primary reason cases cannot be confirmed. A convalescent sample, frequently not submitted for testing, is necessary for confirmation.